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(54) **MATERIALS AND METHODS FOR RAPID AND SENSITIVE DETECTION OF SMALL-MOLECULE TARGETS**

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CPC combination set(s) only.
See application file for complete search history.

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(57) **ABSTRACT**

The subject invention provides methods, assays and products for detecting small-molecules in a sample, in particular, in both clinical and field settings. The method for detecting a small-molecule target in a sample comprises providing a sample, contacting the sample with an aptamer-based sensor selective for the small-molecule target, and sensitively and rapidly detecting the small-molecule target in the sample. Specifically, the method utilizes EATR-amplified small-molecule sensors based on cooperative binding split aptamers (CBSAs).

8 Claims, 20 Drawing Sheets

Specification includes a Sequence Listing.